



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,011	07/14/2003	James Michael Halek	E21-006-01-US	6038

22854 7590 03/21/2007  
MOORE & HANSEN, PLLP  
225 SOUTH SIXTH ST  
MINNEAPOLIS, MN 55402

EXAMINER
----------

WIMER, MICHAEL C

ART UNIT	PAPER NUMBER
----------	--------------

2821

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/21/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/619,011

Applicant(s)

HALEK ET AL.

Examiner

Michael C. Wimer

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-70 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 20-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kartchner (5914014) in view of Araya et al. (6583394) and Walker (3818333).

Regarding Claims 2043 and 68, Kartchner discloses a demulsification arrangement to remove microwave-absorptive material from a substrate comprising a containment structure 2; and an RF applicator 16 delivered from the power source (not shown) operatively coupled and positioned within the containment structure 2 and comprising an antenna body defined as a waveguide, having a longitudinal axis along the RF energy 18. The outer surface of the antenna 16 includes RF transparent, cylindrical windows and Kartchner teaches in col. 5, lines 17-19 that the apertures/windows may be rectangular in shape. Thus, Araya et al. are cited as resolving the level of ordinary skill in the art and as evidence of obviousness, and teaches in Fig. 4, a waveguide antenna applicator defined as slotted waveguides 12a arranged with slots perpendicular to the axis (vertically in the figure). It would have been obvious to the skilled artisan to employ such a rectangular slotted waveguide of Araya et al. in lieu of the cylindrical one in Kartchner, particularly since rectangular applicators are

suggested therein. Walker is cited as showing how an apertured applicator 10 is tapered from the generator 22 outward for presenting the desired mode of radiation.

Regarding Claims 21 and 44, Kartchner suggest that conical applicators are well known in the art in col. 2, lines 32-35. It would have been obvious to employ such a shape as the applicator.

Further regarding Claims 22-42 and 45-70, the size shaping and composition of the waveguide the dielectric window (e.g., PTFE or fiberglass) with low permittivity are all common materials employ in RF applicators in heaters and antennas. Constructive interference is maintained due to the reflectors 5 in Kartchner. A skilled artisan would have found it obvious to employ any type hydrocarbon material, where the emulsion and substrate is water and oil.

#### ***Response to Amendment***

3. The declaration under 37 CFR 1.132 filed 1/3/2007 is insufficient to overcome the rejection of claims 20-70 based upon Kartchner in view of Araya et al as set forth in the last Office action because: the amended claims now recite an RF applicator, changed from a microwave energy radiator, which has different cross sections along its length. Additional art has been cited to evidence of obviousness, in that waveguide cross-section is changed to propagate different modes of energy set up in the waveguide.

#### ***Response to Arguments***

4. Applicant's arguments filed 1/3/2007 have been fully considered but they are not persuasive. Specifically, the skilled artisan would look to the secondary reference

Art Unit: 2821

because of different geometry or radiators, particularly apertures, slots, waveguide mouths etc. The specific use of the applicator is less relevant than the radiation aperture variation in order to produce a particular radiation pattern or beam.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

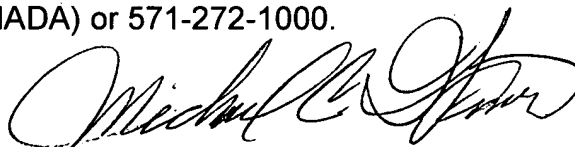
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (571) 272-1833. The examiner can normally be reached on M-F.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2821

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael C. Wimer  
Primary Examiner  
Art Unit 2821

MCW

3/16/2007